WHAT IS CLAIMED IS:

1. An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence which is at least 70% identical to the amino acid sequence of SEQ ID NO:2.

2. An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence which is at least 80% identical to the amino acid sequence of SEQ ID NO:2.

3. An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence which is at least 90% identical to the amino acid sequence of SEQ ID NO:2.

4. An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence which is at least 95% identical to the amino acid sequence of SEQ ID NO:2.

5. The isolated nucleic acid of claim 1, wherein the polypeptide, when expressed in a cell, renders the cell resistant to DNA-damaging agents.

6. An isolated nucleic acid comprising the nucleotide sequence of SEQ ID NO: 1 or a degenerate variant thereof.

7. An isolated nucleic acid comprising a sequence that encodes a polypeptide with the amino acid sequence of SEQ ID NO:2.

8. An expression vector comprising the nucleic acid of claim 7 operably linked to an expression control sequence.

9. A cultured cell comprising the expression vector of claim 8.

10. A method for producing a polypeptide, comprising culturing the cultured cell of claim 9 in a medium under conditions permitting expression of a polypeptide encoded by the expression vector, and purifying the polypeptide from the cultured cell or the medium of the cell.

11. A cultured cell transfected with the vector of claim 7, or a progeny of the cell, wherein the cell expresses a polypeptide encoded by the expression vector.

12. A cultured cell comprising the nucleic acid of claim 7 operably linked to an expression control sequence.

13. A method for producing a polypeptide, comprising culturing the cell of claim 12 in a medium under conditions permitting expression under the control of the expression control sequence, and purifying a polypeptide encoded by the nucleic acid from the cell or the medium of the cell.

14. An isolated nucleic acid comprising a sequence that hybridizes under low stringency conditions to a hybridization probe the sequence of which consists of SEQ ID NO:1 or the complement of SEQ ID NO:1.

15. An isolated nucleic acid comprising a sequence that hybridizes under medium stringency conditions to a hybridization probe the sequence of which consists of SEQ ID NO:1 or the complement of SEQ ID NO:1.

16. An isolated nucleic acid comprising a sequence that hybridizes under high stringency conditions to a hybridization probe the sequence of which consists of SEQ ID NO:1 or the complement of SEQ ID NO:1.

17. An isolated polypeptide comprising an amino acid sequence which is at least 70% identical to the amino acid sequence of SEQ ID NO:2.

18. The isolated polypeptide of claim 17, wherein the polypeptide, when expressed in a cell, renders the cell resistant to DNA-damaging agents.

19. A purified antibody that binds specifically to a polypeptide with the amino acid sequence of SEQ ID NO:2 or fragments thereof.

20. A method for detecting a cellular proliferative disorder in a subject, comprising:

i) providing a test sample of a subject; and

ii) measuring the expression level of a gene encoding a polypeptide with a sequence of SEQ ID NO:2 (BCRM-1 gene) in the test sample.

21. The method of claim 20 further comprising reporting the expression level of the BCRM-1 gene in the test sample.

22. The method of claim 21 further comprising comparing the expression level to a predetermined value.

23. The method of claim 20, wherein the expression level of the BCRM-1 gene is the amount of an mRNA encoding a polypeptide with a sequence of SEQ ID NO:2.

24. The method of claim 20, wherein the expression level of the BCRM-1 gene is the amount of a polypeptide with a sequence of SEQ ID NO:2.

25. The method of claim 24 further comprising

i) contacting an antibody against a polypeptide that comprises a sequence of SEQ ID NO:2 with a cell in the test sample; and

ii) detecting binding of the antibody.

26. A method for monitoring a subject undergoing a therapeutic treatment, comprising:

i) obtaining a test sample from a subject; and

ii) measuring the expression level of a gene encoding a polypeptide with a sequence of SEQ ID NO:2 (BCRM-1 gene) in the test sample.

27. The method of claim 26 further comprising obtaining a previous sample from a subject at an earlier time.

28. The method of claim 27 further comprising reporting the expression levels in the test sample and the previous sample.

29. A method for targeting a cellular proliferative disorder in a subject, comprising:

i) identifying a subject suffering a cellular proliferative disorder; and

ii) administering to the subject an agent that can bind to a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or fragments thereof.

30. A method for expressing a foreign polypeptide in a cell in vivo, wherein the foreign polypeptide can bind to a polypeptide with the amino acid sequence of SEQ ID NO:2, comprising

i) providing an expression vector encoding the foreign polypeptide;

ii) introducing the expression vector into a cell in vivo; and

iii) maintaining the cell in vivo under conditions permitting expression of the foreign polypeptide in the cell.

31. A method for introducing a foreign nucleic acid into a cell in vivo, comprising:

i) providing a sequence comprising the foreign nucleic acid; and

ii) contacting the sequence with a cell in vivo.

wherein the foreign nucleic acid is complementary to SEQ ID NO:1 or fragments thereof

32. A method for targeting a cellular proliferative disorder in a subject, comprising

i) identifying a subject having a cellular proliferative disorder; and

ii) administering to the subject an agent that can bind to a nucleic acid encoding to a polypeptide comprising the amino acid sequence of SEQ ID NO:2.

33. A method for targeting a cellular proliferative disorder in a subject, comprising

i) identifying a subject having a cellular proliferative disorder; and

ii) administering to the subject an agent that can modulate the expression level of a gene encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2 .

34. A method for modulating the cellular pump mechanism of a resistant tumor cell, comprising

i) providing an agent that binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or fragments thereof; and

ii) contacting the agent with the cell.

35. A method for modulating the cellular pump mechanism of a resistant tumor cell in a subject, comprising administering to a subject having a resistant tumor cell an agent that binds to a polypeptide comprising the amino acid sequence of SEQ ID NO: 2.

36. A method for screening for a therapeutic agent for treating a drug-resistant tumor cell, comprising:

i) providing a cell system comprising a reporter gene operatively linked to a sequence constructed and arranged to drive the transcription of the reporter gene;

ii) contacting the cell system with a candidate agent; and

iii) measuring the level of synthesis of the gene product of the reporter gene, wherein a decreased level of synthesis in the presence of the candidate agent compared to in the absence of the agent is indicative of the agent being an effective agent for treating a drug-resistant tumor cell.

37. The method of claim 36, wherein the reporter gene encodes a polypeptide with the sequence of SEQ ID NO: 2.

38. A cell system for screening for a therapeutic agent for treating a drug-resistant tumor cell, wherein the cell system comprises a reporter gene operatively linked to a regulatory sequence constructed and arranged to drive the transcription of the reporter gene.

39. The cell system of claim 38, wherein the reporter gene encodes a polypeptide with the sequence of SEQ ID NO: 2.

40. A method for making an antibody, comprising immunizing a non-human animal with an immunogenic fragment of a polypeptide with the sequence of SEQ ID NO: 2.

41. A method for making an antibody, comprising providing a hybridoma cell that produces a monoclonal antibody specific for a polypeptide with the sequence of SEQ ID NO: 2, and culturing the cell under conditions that permit production of the monoclonal antibody.